

To receive credit you **MUST SHOW ALL YOUR WORK.**

1. (2 pts) If $h'(t)$ is the rate of change of a child's height measured in inches per year, what does the integral $\int_2^8 h'(t) dt$ represent and what are its units?

2. (3 pts) Is the statement below true or false? Answer (1 pt) and briefly justify your answer (2 pts).

There does not exist a differentiable function $F(x)$ such that $F'(x) = |x|$. **True** **False**

Justification:

3. (6 pts) Evaluate each integral (3 pts each):

(a) $\int_1^4 \frac{1}{x\sqrt{x}} dx$

(b) $\int_0^{5\pi/6} |\cos x| dx$